Section II. (REMARKS)

The pending claims in the application are 1-7, 10, 14-20, and 53-57.

Amendment to the Claims and New Claims 53-59

Claims 14, 17 and 19 have been amended herein to depend from claim 1 rather than claim 8. Accordingly, claims 14, 17 and 19, and claims 15, 16, 18, and 20 depending therefrom, now correspond to elected subject matter. Accordingly, claims 14-20 should be examined with the remainder of the elected claims.

Claim 7 has been amended herein to include formulations H-C^2, which correspond to elected composition (a) comprising a quaternary base in combination with at least one of alkali and alkaline earth base. Formulations H-C^2 correspond to formulations Q-L^2 in claim 23 as filed. Withdrawn claim 36 has been correspondingly amended.

Withdrawn claims 23 and 52 have been amended to re-alphabetize the formulations.

New claims 53-57 correspond to Group I, Species I (claim 1, subspecies (a)) claims. Accordingly, claims 53-57 should be examined with the remainder of the elected claims. Support for new claims 53-56 can be found in original claim 7 as filed. Support for new claim 57 can be found in the instant application at paragraph [0024], formulation G.

New claims 58 and 59 are method claims and should be considered for rejoinder upon allowance of the corresponding composition claims. Support for new claims 58 and 59 can be found in the instant application at paragraph [0040].

Request for Rejoinder Reminder

Applicants respectfully request examination of Species II (claims 1 subspecies (b), 8, 9, and 11-13 and 21-23) of composition claims 1-23 upon allowance of Species I (claim 1 subspecies (a), 2-7, 10, 14-20 and 53-57). Applicants acknowledge the Examiner's indication that said search extension is "possible" (see June 2, 2005 Office Action, page 3, lines 1-2).

Further, applicants request rejoinder of method claims 24-52, 58 and 59 upon allowance of the composition claims 1-23 and 53-57.[1] Towards that end, withdrawn claims 36, 43, 46, 48 and 52 have been amended herein.

Allowable Subject Matter

In the June 2, 2005 Office Action, the Examiner objected to claim 7 as being dependent upon a rejected base claim and indicated that it would be found allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response, applicants amended claim 7 to include all of the limitations of the base claim and any intervening claims (see, response to June 2, 2005 Office Action dated August 22, 2005).

In the subsequent Office Action dated October 24, 2005, the Examiner did not acknowledge that claim 7 was allowed or rejected.

Applicants request the Examiner acknowledge that claim 7 has been allowed pursuant to applicants compliance with the Examiner's indication of prospective allowance in the June 2, 2005 Office Action.

Provisional Double Patenting Rejection Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

In the October 24, 2005 Office Action, the Examiner provisionally rejected claims 1-2, 5, 8-9 and 11-22 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7-17 of copending U.S. Patent Application No. 10/389,214.

Applicants acknowledge same.

It is noted that the Examiner repeatedly stated in the October 24, 2005 Office Action that "[a]pplicants urge [in the arguments filed August 22, 2005] that the double patenting rejection is overcome since claimed composition contains an intended use" (see, e.g., October 24, 2005

[1] Rejoinder was previously requested in the response to the April 18, 2005 Office Action, filed April 27, 2005.

Office Action, page 3, lines 8-9, and page 5, lines 17-18).

Applicants have reproduced hereinbelow the exact verbiage used in the arguments filed August 22, 2005 with regards to the double patenting rejection:

> **"In the June 2, 2005 Office Action, the Examiner provisionally rejected claims 1-2, 5, 8-9 and 11-22 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7-17 of copending U.S. Patent Application No. 10/389,214.**
>
> **Applicants acknowledge same."**

Applicants question, where is the urging that the double patenting rejection was overcome? Importantly, the remainder of applicants' arguments in the August 22, 2005 response related to anticipation rejections, which have nothing to do with the judicially created doctrine of obviousness-type double patenting.

Clearly, applicants' response to the June 2, 2005 Office Action, as filed on August 22, 2005, was silent with regards to the double patenting rejection with the exception of acknowledging that the Examiner had provisionally rejected some claims under the judicially created doctrine of obviousness-type double patenting. For the record, applicants request that the Examiner acknowledge that applicants had never "urge[d]" that the double patenting rejection was "overcome." The record should not contain statements that applicants "urge[d]" a point they never in fact argued.

Evidence Required to Establish Common Ownership

Applicants hereby declare and affirm that pending U.S. Patent Application Publication No. 20040180300, filed on March 14, 2003 in the name of Minsek et al., was, at the time the invention of U.S. Application Serial No. 10/792,038 (the presently pending application) was made, owned by Advanced Technology Materials, Inc.

Rejection of Claims and Traversal Thereof

In the October 24, 2005 Office Action:

claims 1-2, 5, 8-9, and 11-22 were rejected under 35 USC 103(a) as being unpatentable over Minsek et al. (U.S. Patent Application Publication No. 20040180300);

claims 1-6 were rejected under 35 USC 103(a) as being unpatentable over Carati et al. (U.S. Patent No. 5,908,968); and

claims 1-5 and 10 were rejected under 35 USC 103(a) as being unpatentable over Miller et al. (U.S. Patent No. 6,572,743).

These rejections are traversed and reconsideration of the patentability of the pending claims is requested in light of the following remarks.

Rejections under 35 U.S.C. §103

1. In the June 2, 2005 Office Action, claims 1-2, 5, 8-9, and 11-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Minsek et al. (U.S. Patent Application Publication No. 20040180300) (hereinafter Minsek).

As stated hereinabove, Minsek, which qualifies as a §102(e) reference, was commonly owned by Advanced Technology Materials, Inc. at the time of filing of the present application. Consistent with the provisions of MPEP §706.02(l)(2), the statement hereinabove by applicants disqualifies U.S. Patent Application Publication No. 20040180300 to Minsek from being used in a rejection under 35 U.S.C. §103(a) against claims of the present application. See also, MPEP §§ 706(l)(1).

Accordingly, withdrawal of the rejection of pending claims 1-2 and 5 under §103(a) in view of Minsek is respectfully requested.

2. In the October 24, 2005 Office Action, claims 1-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Carati et al. (U.S. Patent No. 5,908,968) (hereinafter Carati). Applicants traverse such rejection.

It is initially noted that in order to make a legally sufficient rejection under 35 U.S.C. §103(a) based on a modification of a reference disclosure, the Examiner must explain with specificity

what areas of the reference suggest the modification. *Ex parte Humphreys*, 24 U.S.P.Q.2d 1255, 1262 (B.P.A.I. 1992).

Carati relates to a process for the hydroisomerization of n-paraffins (i.e., waxes) in the presence of a difunctional catalyst. Importantly, Carati is completely silent with regards to semiconductors and the removal of photoresist or SARC materials from a semiconductor substrate.

The Examiner points to Carati, col. 6, lines 30-31, which recites:

> "[a] reactant mixture "A" is prepared by dissolving 0.8 g of NaOH, 0.4 g of $NaAlO_2$ and 3.7 g of H_3BO_3 in 65.5 g of . . . ."

However, the Examiner failed to consider the remainder of this particular Carati teaching, which recites *in toto*:

> "[a] reactant mixture "A" is prepared by dissolving 0.8 g of NaOH, 0.4 g of $NaAlO_2$ and 3.7 g of H_3BO_3 in 65.5 g of tetra ethyl ammonium hydroxide at 14% by weight. To the resulting clear solution, 31.2 g of Ludox HS silica at 40% by weight is added. The resulting "A" mixture is charged to an autoclave and is allowed to crystallize for 2 days at 150° C. under static conditions and under its autogenous pressure. In that way, a milky seed suspension is obtained."

When Carati is considered as a whole as the Examiner must do,[2] it is unclear how this specific Carati teaching relates in any way to applicants' claimed compositions. Carati teaches the production of a reaction mixture seed suspension[3] for the preparation of a boro-alumino-silicate (Al-BOR-B) crystalline catalyst material and provides no motivation, teaching or suggestion that one skilled in the art should only combine the components enumerated in col. 6, lines 30-31[4] and not follow through with the remainder of the Carati reaction process.

Considering the Carati teaching as a whole, as the Examiner must do, applicants question where is the objective motivation or suggestion to use said Carati seed suspension, **which is the product of the specified Carati teaching**, to remove photoresist and/or SARC material from a

[2] *W.L. Gore & Associates, Inc., v. Garlock, Inc.*, 220 U.S.P.Q. 303 (Fed. Cir. 1993), *cert. denied*, 469 U.S. 851 (1984).

[3] not a "clear alkaline aqueous composition" as suggested by the Examiner in the October 24, 2005 Office Action (see page 7, lines 11-12).

semiconductor substrate? Clearly there is none. In fact, one skilled in the art of photoresist and SARC material removal would **not** introduce a composition that contains particulate matter to the semiconductor surface **at this stage** of the manufacturing process. The purpose of this photoresist/SARC removal stage is to remove material from the substrate, not introduce potentially contaminating materials such as boro-alumino-silicate crystals which will have to be removed anyways prior to subsequent processing.

Even if Carati suggested to one skilled in the art to make the solution disclosed in lines 30-31 of column 6 and not follow through with the remainder of the synthesis (i.e., to make the Al-BOR-B crystal), the fact remains that Carati does not motivate, teach or suggest the use of any composition for the removal of photoresist and or SARC material from a semiconductor substrate.

The foregoing, especially the Examiner's direction to just lines 30-31 of column 6 of Carati, compels the conclusion that the rejection is based solely on hindsight, which is legally impermissible. The Examiner may not reconstruct applicants' claimed invention in light of applicants' own disclosure, without any suggestive basis in the prior art references themselves. Such approach is improper and legally insufficient to establish any *prima facie* case of obviousness.

Additionally, and consistent with the above-discussed absence of any motivation or suggestion for the proposed modification of Carati, it is to be noted that Carati is non-analogous art. As stated by the court in *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992),

> "[i]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned."

The Carati reference, which teaches the preparation of a boro-alumino-silicate (Al-BOR-B) crystalline catalyst material, is clearly NOT in the field of applicants' endeavor. Moreover, the field of crystalline catalyst synthesis is NOT even marginally pertinent to compositions useful for removing photoresist and/or SARC materials from a semiconductor substrate.[5] Accordingly,

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[4] as directed by the Examiner in the October 24, 2005 Office Action.

[5] it is noted that the Examiner repeatedly stated that the intended use of applicants' composition "has and is given a [sic] little value for the patentability of the composition claims since the claimed composition has

there are no grounds for relying on the Carati reference as a basis for the rejection of applicants' claims.

In sum, Carati is not analogous art. Even if this were not the case, the fact remains that there is no objective motivation, teaching or suggestion in Carati to modify the Carati teaching to yield applicants' claimed composition. Accordingly, withdrawal of the rejection of pending claims 1-6 under §103 in view of Carati is respectfully requested.

3. In the October 24, 2005 Office Action, claims 1-5 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Miller et al. (U.S. Patent No. 6,572,743) (hereinafter Miller `743). Applicants traverse such rejection.

Miller `743 relates to the application of adherent metallic coatings to the ends of optical fibers to facilitate bonding of fiber ends at interfaces between the fiber ends and optoelectronic and related devices and modules. Importantly, Miller `743 is completely silent with regards to semiconductors and the removal of photoresist or SARC materials from a semiconductor substrate.

Similar to Carati, Miller `743 is non-analogous art. The Miller reference, which teaches the application of adherent metallic coatings to the ends of optical fibers is clearly NOT in the field of applicants' endeavor. Moreover, the metallic coating is NOT even marginally pertinent to compositions useful for removing photoresist and/or SARC materials from a semiconductor substrate. Accordingly, there are no grounds for relying on the Miller `743 reference as a basis for the rejection of applicants' composition claims.

In sum, Miller `743 is not analogous art. Even if this were not the case, the fact remains that there is no motivation, teaching or suggestion in Miller `743 to modify the Miller `743 silver nitrate solution. The Miller `743 silver solution recited at col. 13, lines 8-16 contains deionized water, KOH, ammonium hydroxide and silver nitrate and is actually produced for combination with a glucose reducer solution, followed by immersion of the optical fiber tip in the

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another use" (see October 24, 2005 Office Action, page 8, lines 1-3). That said, the intended use is important when considering whether the prior art is "reasonably pertinent to the particular problem with which the inventor was concerned," and should under the circumstances be considered for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. See, MPEP 2173.05(g).

silver/glucose solution for electroless silver plating thereto. There is no motivation, teaching or suggestion that the silver nitrate should be removed from the Miller `743 solution. Further, there is no motivation, teaching or suggestion that the Miller `743 solution may be used to remove photoresist and/or SARC materials from a semiconductor substrate.

In addition, one skilled in the art would not reasonably expect that the Miller `743 solution would successfully remove photoresist and/or SARC materials from a semiconductor substrate. Silver ions (Ag^+) are small, compact ions that could potentially intercalate into the porous low-k dielectric materials exposed on the surface of the semiconductor substrate and could alter the dielectric properties of said low-k material and/or form silver-containing solids in the pores of said low-k material, both or which would be detrimental **at this stage** of the semiconductor manufacturing process.

In sum, Miller `743 is not analogous art. Even if this were not the case, the fact remains that there is no objective motivation, teaching or suggestion in Miller `743 to modify the Miller `743 teaching to yield applicants' claimed composition. Accordingly, withdrawal of the rejection of pending claims 1-5 and 10 under §103 in view of Miller `743 is respectfully requested.

Fees Payable

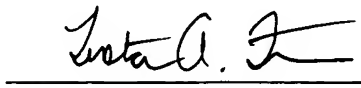
Seven (7) dependent claims have been added herein and one (1) dependent claim has been converted into an independent claim. As such, an added claims fee of (1 × $200) + (7 × $50) = $550.00 is due.

The total fee of $550.00 is authorized to be charged in the attached credit card authorization form. Authorization is also hereby given to charge any deficiency in applicable fees for this response to Deposit Account Number 08-3284 of Intellectual Property/Technology Law.

Conclusion

Claims 1-7, 10, 14-20 and 53-57 are now in form and condition for allowance. Favorable action is requested. If any issues remain, Examiner Le is requested to contact the undersigned attorney at (919) 419-9350 to resolve same.

Respectfully submitted,



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